

Form PTO-1449 (modified)

JAN 22 2001

Atty. Docket No.  
ARCD:318/GNSSerial No.  
09/523,886

RECEIVED

List of Patents and Publications for Applicant

Applicant  
David J. Grdina and Luka Milas

JAN 24 2001

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date:  
March 13, 2000Group:  
1614

TECH CENTER 1600/2000

U.S. Patent Documents  
See Page 1Foreign Patent Documents  
See Page 1Other Art  
See Page 1

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
SL	B1	WO 93/17689	9/16/1993	PCT			
SL	B2	WO 95/07700	3/23/1995	PCT			

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
SL	C49	Grdina et al., "Prevention of spontaneous metastases formation in murine tumor models by Amifostine," <i>Proc. Americ. Ass. Canc. Res. Ann. Meet.</i> , No.40, PP. 485, 2000.
SL	C50	Miele et al., "Enhanced metastatic ability of TNF- $\alpha$ -treated malignant melanoma cells is reduced by intercellular adhesion molecule-1 (ICAM-1, CD54) antisense oligonucleotides," <i>Experimtl. Cell Reser.</i> , 214:231-241, 1994.
SL	C51	Milas et al., "Protective effects of thiol compound WR-2721 against metastasis enhancement caused by cyclo-phosphamide (CY) and whole-body irradiation (WBI)," <i>Proc. Amer. Ass. Canc. Res.</i> , 25:62, 1984.
SL	C52	Ullrich et al., "Influence of WR-2721 on metastatic tumor spread after irradiation," <i>Proc. Third. Ann. Meet. SE. Canc. Res. Ass.</i> , 1976.

1656860.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-01

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

Atty. Docket No.

ARCD:318/GNS

Serial No.

09/523,886

List of Patents and Publications for Applicant's

Applicants

David J. Grdina and Luka Milas

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date:

March 13, 2000

Group:

1614

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
gm	A1	5,488,042			574	114	
gm	A2	5,567,686			574	43	
gm	A3	5,869,338			435	375	
gm	A4	5,891,856			574	43	

## Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
gm	C1	Albini <i>et al.</i> , "Inhibition of invasion, gelatinase activity, tumor take and metastasis of malignant cells by N-acetylcysteine," <i>Int. J. Cancer</i> , 61:121-129, 1995.
	C2	Antras-Ferry, J. <i>et al.</i> , "Oltipraz stimulates the transcription of the manganese superoxide dismutase gene in rat hepatocytes," <i>Carcinogenesis</i> , 18:2113-2117, 1997.
	C3	Apffel, C.A. <i>et al.</i> , "Tumor rejection in experimental animals treated with radioprotective thiols," <i>Cancer Res.</i> , 35:429-437, 1975.
	C4	Banner <i>et al.</i> , "Experimental chelation therapy in chromium, lead, and boron intoxication with N-acetylcysteine and other compounds," <i>Toxicol. Appl. Pharmacol.</i> , 83:142-147, 1986.
	C5	Brumas <i>et al.</i> , "Can N-acetyl-L-cysteine affect zinc metabolism when used as a paracetamol antidote?" <i>Agents Actions</i> , 36:278-288, 1992.
	C6	Carnes, B.A. <i>et al.</i> , "In vivo protection by the aminothiols WR-2721 against neutron-induced carcinogenesis," <i>Int. J. Radiat. Biol.</i> , 61:567-576, 1992.
gm	C7	Das, K.C. <i>et al.</i> , "Activation of NF-κB and elevation of MnSOD gene expression by thiol reducing agents in lung adenocarcinoma (A549) cells," <i>Am. J. Physiol.</i> , 269:L588-L602, 1995.

263678.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-07

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

List of Patents and Publications for Applicants

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

ARCD:318/GNS

Serial No.

09/523,886

Applicants

David J. Grdina and Luka Milas

Filing Date:

March 13, 2000

Group:

1614

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
gm	C8	De Flora <i>et al.</i> , "Chemopreventive properties and mechanisms of N-acetylcysteine. The experimental background," <i>J. Cell Biochem. Suppl.</i> , 22:33-41, 1995.
	C9	De Flora <i>et al.</i> , "Synergism between N-acetylcysteine and doxorubicin in the prevention of tumorigenicity and metastasis in murine models," <i>Int. J. Cancer</i> , 67:842-848, 1996.
	C10	Fink <i>et al.</i> , "Design and synthesis of thiol containing inhibitors of matrix metallaproteinases," <i>Bioorg. Med. Chem. Lett.</i> 9:195-200, 1999.
	C11	Freskos <i>et al.</i> , "Discovery of a novel series of selective MMP inhibitors: identification of the $\gamma$ -fulfone-thiols," <i>Bioorg. Med. Chem. Lett.</i> , 9:943-948, 1999.
	C12	Gately <i>et al.</i> , "Human prostate carcinoma cells express enzymatic activity that converts human plasminogen to the angiogenesis inhibitor, angiostatin," <i>Cancer Res.</i> , 56:4887-4890, 1996.
	C13	Gately <i>et al.</i> , "The mechanism of cancer-mediated conversion of plasminogen to the angiogenesis inhibitor angiostatin," <i>Proc. Natl. Acad. Sci. USA</i> , 94:10868-10872, 1997.
	C14	Gilbert, "Redox control of enzyme activities by thiol/disulfide exchange," In: <i>Methods in Enzymology</i> , Academic Press, New York, 107:330-351, 1984.
	C15	Grdina <i>et al.</i> , "Thiol and disulfide metabolites of the radiation protector and potential chemopreventive agent WR-2721 are linked to both its anti-cytotoxic and anti-mutagenic mechanisms of action," <i>Carcinogenesis</i> , 16:767-774, 1995.
	C16	Grdina <i>et al.</i> , "Chemopreventive doses of Amifostine confer no cytoprotection to tumor nodules growing in the lungs of mice treated with cyclophosphamide," <i>Sem. Oncol.</i> , 26: 22-27, 1999.
	C17	Grdina <i>et al.</i> , "Protection against late effects of radiation by s-2-(3-aminopropylamino)-ethylphosphorothioic acid," <i>Cancer Research</i> , 51:4125-4130, 1991.
	C18	Grdina <i>et al.</i> , "The radioprotector WR-2721 reduces neutron-induced mutations at the hypoxanthine-guanine phosphoribosyl transferase locus in mouse splenocytes when administered prior to or following irradiation," <i>Carcinogenesis</i> , 13:811-814, 1992.
	C19	Hirschel-Scholz <i>et al.</i> , "Interference of WR-2721 with magnesium metabolism: mechanism of action," <i>Miner Electrolyte Metab.</i> , 14:114-20, 1988.
gm	C20	Hoffman <i>et al.</i> , "Would fluid from venous leg ulcers degrades plasminogen and reduces plasmin generation by keratinocytes," <i>J. Invest Dermatol.</i> , 111:1140-1144, 1998.

263678.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-01

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>
--	---	--------------------------------

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
426	C21	Kahari <i>et al.</i> , "Matrix metalloproteinases and their inhibitors in tumor growth and invasion," <i>Ann. Med.</i> , 31:34-45, 1999.
	C22	Kancierz and Chapman, "Influence of misonidazole, sr-2508, rsu-1069 and wr-2721 spontaneous metastases in c57bl mice," <i>Int J Radiat Oncol Biol Phys</i> , 14:309-316, 1988.
	C23	Kataoka <i>et al.</i> , "Anti-mutagenic effects of amifostine: clinical implications," <i>Semin. Oncol.</i> , 23:53-57, 1996.
	C24	Kataoka <i>et al.</i> , "Anti-mutagenic effects of the radioprotector WR-2721 against fission spectrum neutrons and <sup>60</sup> Co γ-rays in mice," <i>Int. J. Radiat. Biol.</i> , 61:387-392, 1992.
	Q25	Kleiner <i>et al.</i> , "Matrix metalloproteinases and metastasis," <i>Cancer Chemother. Pharmacol.</i> , 43:S42-S51, 1999.
	C26	Langeland <i>et al.</i> , "Metal binding properties of thiols; complexes with horse liver alcohol dehydrogenase," <i>Comp. Biochem. Physiol Part B</i> , 123: 155-162, 1999.
	C27	Li <i>et al.</i> , "Overexpression of manganese superoxide dismutase in DU145 human prostate carcinoma cells has multiple effects on cell phenotype," <i>Prostate</i> , 35:221-233, 1998.
	C28	Liu <i>et al.</i> , "Repression of c-myc gene expression by the thiol and disulfide forms of the cytoprotector amifostine," <i>Carcinogenesis</i> , 18:2457-2459, 1997.
	C29	Liu <i>et al.</i> , "Transfection and expression of MnSOD cDNA decreases tumor malignancy of human oral squamous carcinoma SCC-25 cells," <i>Human Gene Ther.</i> , 8:585-595, 1997.
	C30	Llobert <i>et al.</i> , "Comparative effects of repeated parenteral administration of several chelators on the distribution and excretion of cobalt," <i>Res. Comm. Chem. Path, Pharmacol.</i> , 60(2):255-233, 1988.
	C31	McDonnell <i>et al.</i> , "Zinc ejection as a new rationale for the use of a cystamine and related disulfide-containing antiviral agents in the treatment of AIDS," <i>J. Med. Chem.</i> , 40:1969-76, 1997.
	C32	Milas <i>et al.</i> , "Inhibition of radiation carcinogenesis in mice by S-2-(3-aminopropylamino) ethylphosphorothioic acid," <i>Cancer Res.</i> , 44:5567-5569, 1984.
426	C33	Milas <i>et al.</i> , "Effect of tumor type, size, and endpoint on tumor radioprotection by WR-2721," <i>Int. J. Radiat. Oncol. Biol. Phys.</i> , 10:41-48, 1984.

263678.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-07

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

ARCD:318/GNS

Serial No.

09/523,886

Applicants

David J. Grdina and Luka Milas

Filing Date:

March 13, 2000

Group:

1614

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
LM	C34 ✓	Oku <i>et al.</i> , "Antimetastatic and antitumor effect of a recombinant human tissue inhibitor of metalloproteinases-2 in murine melanoma models," <i>Biol Pharm Bull</i> , 20:843-849, 1997.
	C35 ✓	Penhaligon "Radioprotection of mouse skin vasculature and the RIF-1 fibrosarcoma by WR-2721," <i>Int. J. Radiat. Oncol. Biol. Phys.</i> , 10:1541-1544, 1984.
	C36 ✓	Pinkus <i>et al.</i> , "Role of oxidants and antioxidants in the induction of AP-1, NFκB, and glutathione S-transferase gene expression," <i>J. Biol. Chem.</i> , 271:13422-13429, 1996.
	C37 ✓	Polla <i>et al.</i> , "Protection from cellular oxidative injury and calcium intrusion by <i>n</i> -(2-mercaptoethyl)-1, 3-propanediamine, WR 1065," <i>Biochem. Pharmacol.</i> , 40:1469-1475, 1990.
	C38 ✓	Prontera <i>et al.</i> , "Inhibition of gelatinase A (MMP-2) by batimastat and captopril reduces tumor growth and lung metastases in mice bearing lewis lung carcinoma," <i>Int. J. Cancer</i> , 81:761-766, 1999.
	C39 ✓	Sack <i>et al.</i> , "Diurnal variations in angiostatin in human tear fluid: a possible role in prevention of corneal neovascularization," <i>Curr. Eye Res.</i> , 18:186-193, 1999.
	C40 ✓	Safford <i>et al.</i> , "Suppression of fibrosarcoma metastasis by elevated expression of Manganese Superoxide Dismutase," <i>Cancer Res.</i> , 54:4261-4265, 1994.
	C41 ✓	Sen, "Redox signaling and the emerging therapeutic potential of thiol antioxidants," <i>Biochem. Pharmacol.</i> , 55:1747-1758, 1998.
	C42 ✓	Spencer, C.M. <i>et al.</i> , "A review of its pharmacodynamic and pharmacokinetic properties, and therapeutic potential as a radioprotector and cytotoxic chemoprotector," <i>Drugs</i> , 50:1001-1031, 1995.
	C43 ✓	Stack <i>et al.</i> , "Angiostatin inhibits endothelial and melanoma cellular invasion by blocking matrix-enhanced plasminogen activation," <i>Biochem J.</i> , 340:77-84, 1999.
	C44 ✓	Stathakis <i>et al.</i> , "Angiostatin formation involves disulfide bond reduction and proteolysis in kringle 5 of plasmin," <i>J. Biol. Chem.</i> , 274(13):8910-8916, 1999.
	C45 ✓	Stathakis <i>et al.</i> , "Generation of angiostatin by reduction and proteolysis of plasmin," <i>J. Biol. Chem.</i> , 272:20641-20645, 1997.
LM	C46 ✓	Stewart <i>et al.</i> , "Radioprotection of two mouse tumors by WR-2721 in single and fractionated treatments," <i>Int. J. Radiat. Oncol. Biol. Phys.</i> , 9:507-513, 1983.

263678.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-01

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

ARCD:318/GNS

Serial No.

09/523,886

Applicants

David J. Grdina and Luka Milas

Filing Date:

March 13, 2000

Group:

1614

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
LM	C47	Volpert <i>et al.</i> , "Captopril inhibits angiogenesis and slows the growth of experimental tumors in rats," <i>J. Clin. Invest.</i> , 98:671-679, 1996.
cm	C48	Woloschak <i>et al.</i> , "Expression of thymidine kinase messenger RNA and a related transcript is modulated by the radioprotector WR-1065," <i>Cancer Res.</i> , 55:4788-4792, 1995.

263678.1

EXAMINER:

Shin-Lin Chen

DATE CONSIDERED:

8-8-01

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.